CHAPTER 7

PROTECTIVE LIGHTING

700. GENERAL. Protective (or security) lighting increases the effectiveness of security forces performing their duties, has considerable value as a deterrent to thieves and vandals and increases the risk or uncertainty for a terrorist. As with ordinary sunlight during the day, protective lighting at night is useful for the ability of detection by security forces, or risky for the intruder only to the extent the intruder can be seen. Protective lighting serves little purpose if there are no clear zones requiring that intruders be exposed to sight rather than remain hidden from view. Requirements for protective lighting at an activity will depend upon the situation and the areas to be protected. In the interest of finding the best possible mix between energy conservation and effective security, each situation must be carefully studied. The overall goal is to provide the proper environment to perform duties such as identification of badges and personnel at gates, inspection of unusual or suspicious circumstances, etc. Where lighting is impractical, additional compensating measures must be instituted.

0701. GENERAL PRINCIPLES AND GUIDELINES. Reference (ab) provides general principles and guidelines for exterior protective (security) lighting. When protective lighting is installed and used, the following basic principles, in addition to those provided in reference (ab), should also be applied:

a. Provide adequate illumination or compensating measures to discourage or detect attempts to enter restricted areas and to reveal the presence of unauthorized persons within such areas.

b. Avoid glare which handicaps security force personnel or is objectionable to air, rail, highway or navigable water traffic or occupants of adjacent properties.

c. Locate light sources so that illumination is directed toward likely avenues of approach and provides relative darkness for patrol roads, paths and posts. To minimize exposure of security force personnel, lighting at entry points will be directed at the gate and the guard shall be in the shadows. This type of lighting technique is often called "glare projection."

d. Illuminate shadowed areas caused by structures within or adjacent to restricted areas.

e. Design the system to provide overlapping light distribution. Equipment selection should be designed to resist the effects of environmental conditions, and all components of

the system should be located to provide maximum protection against intentional damage.

f. Meet requirements of blackout and coastal dim-out areas.

g. During planning stages, consideration should be given to future requirements of closed circuit television (CCTV) and recognition factors involved in selection of the type of lighting to be installed. Where color recognition will be a factor, full spectrum (high pressure sodium vapor, etc.) lighting vice single color should be used.

h. Choose lights that illuminate the ground or water but not the air above. These lights must penetrate fog and rain.

i. When considering the above, do not overlook possible applications of on demand infrared lighting.

0702. PROTECTIVE LIGHTING PARAMETERS. It is not the intent of this instruction to prescribe specific protective lighting requirements. The commanding officer must decide what areas or assets to illuminate and how to do it. This decision must be based upon the following:

a. Relative value of items being protected.

b. Significance of the items being protected in relation to the activity mission and its role in the overall national defense structure.

c. Availability of security forces to patrol and observe illuminated areas.

d. Availability of clear zones so that any intruders, with no place to hide, must risk being seen because of the light.

e. Availability of fiscal resources (procurement, installation, and maintenance costs).

f. Energy conservation.

0703. EMERGENCY POWER. Restricted areas provided with protective lighting should have an emergency power source located within the restricted area. Emergency power systems shall be tested periodically lest it be discovered when it is most needed that it does not work.

0704. WIRING SYSTEM. Multiple circuits may be used to advantage in protective lighting systems. The circuits should be so arranged that the failure of any one lamp will not darken

a long section of a critical or vulnerable area. The restricted area protective lighting system should be independent of other lighting systems.

0705. PROTECTION - CONTROLS AND SWITCHES. Controls and switches for restricted area protective lighting systems should be inside the protected area or otherwise secure so that they cannot be turned off by unauthorized persons to facilitate their concealment. High impact plastic shields may be installed over lights to prevent destruction.